

tion. They were made with the 9-foot equatoreal, used differentially, comparing the place of the comet with the stars 23 and 30 *Orionis*, and one or two small stars near them.

The following are the resulting places :—

Mean Time of Observation.	Apparent Right Ascension.	Apparent Decli- nation.
1843 h m Dec. 12 9 57	h m s 5 15 29·1	° ' '' + 3 44 46·4
13 10 30	5 14 59·7	3 39 1·6
14 10 58	5 14 30·7	3 33 38·0
22 10 38	5 10 56·0	3 5 25·0

IX. The following Communications respecting the great Comet of 1843 :—

1. Observations of the Comet, made by J. Burdwood, Esq., Master of H. M. Sloop Persian. Communicated by G. B. Airy, Esq.

The comet was seen very distinctly for several successive evenings in March, while the vessel was cruising off the western coast of Africa, between $0^{\circ} 40'$ east, and $0^{\circ} 13'$ west longitude; and between $5^{\circ} 10'$ and $5^{\circ} 30'$ north latitude. The following distances were observed with the sextant on the evening of March 7, at 7^h 10^m P.M. :—

Distance from Aldebaran	60° 29'
— Canopus	75 57
— Sirius	84 0
Length of Tail	27 25

2. Remarks on the Comet, as seen on Board the *Lawrence*, of Liverpool, on her passage from Sidney to Conception. By a Passenger. Communicated by W. Simms, Esq.

The comet was first seen on the 1st of March, at 8½ P.M., as a white streak of light, inclined at an angle of 40° to the horizon, and was imagined to be the zodiacal light. It was again seen on the 6th, when the tail was 50° in length, in two streams of light, the outside edges being clear and well defined. On the 9th, the nucleus was seen, and appeared as bright as stars of the third or fourth magnitude. It was seen at intervals till the 28th of March.

3. Abstract of an Article in *Silliman's Journal*, containing an Account of Observations of the great Comet, made near the time of its Perihelion Passage. By J. G. Clarke, Esq., of Portland.

Mr. Clarke measured the distance of the nucleus from the sun on the 28th of February, and states, that the nucleus and every part of the tail, as seen by him in strong sunshine, were as well defined as the moon on a clear day, and resembled a perfectly pure

white cloud, without any variation, except a slight change near the head, just sufficient to distinguish the nucleus from the tail at that point. The denseness of the nucleus was so great that Mr. Clarke has no doubt that it might have been visible upon the sun's disc, if it had passed between it and the observer. This apparent density he attributes to the foreshortening of the tail, and its being so directed to the earth that the nucleus must have been seen through a considerable mass of the matter of the tail. The following distances were measured with a reflecting instrument:—

	^d	^h	^m	^s					
Feb. 28	3	2	15	P.M.	Distance of	Sun's farthest Limb from			
						nearest Limb of Nucleus	4°	6'	15"
"	3	6	20	P.M.	"	Sun's farthest Limb from			
						farthest Limb of Nucleus	4	7	30
"	3	9	40	P.M.	"	Sun's farthest Limb from			
						Extremity of Tail.....	5	6	30

Mr. Clarke supposes the first of these measures to be correct within 15"; the other two are given as near approximations. Allowance must, of course, be made for the motion of the two bodies during the time of observation. When the sun was on the meridian, the angle made by the line joining the centres of the sun and the nucleus with the lower vertical, on the eastern side, was about seventy-three degrees.

X. On the Deducing of the Parallax of *Mars*, and hence that of the Sun from the Geocentric Motion of the former when in opposition, and especially when near the Node of his Orbit. By S. M. Drach, Esq.

The author, after alluding to the method of determining the solar parallax from observations of the transits of the inferior planets over the sun's disk, states his method as follows:—

"The counterpart of the above is the simultaneous observation at different points of the earth's surface, of the time occupied by a superior planet, when near opposition and near the node, in passing through a certain interval of space, say about half a degree (the sun's diameter); but as this happens at night, comparison stars are to be used, and the interval assumed to be nearly equivalent to their distance. Thus, *e.g.*, if *Mars* be the object observed, and at Greenwich x minutes are occupied by it in describing an arc which it requires only y minutes to describe at the Cape of Good Hope, then will the difference $x - y$, properly applied, give the parallax of *Mars*, and hence that of the sun."

XI. A Letter from Sir J. F. W. Herschel, Bart., to Mr. Baily, dated 6th Sept., 1842, on the Increase in Magnitude of the Star η *Cygni*.

"I beg to call your attention to the star η *Cygni* (21 *Cygni*, Fl.; Piazz. xix. 344), which appears to have increased in magnitude very considerably since the date of Piazz's observations. It is